What is claimed is:

1. A method for estimating the laminar structure and other characteristics of a ground which comprises disposing an oscillation sensor adapted to detect the vertical component or the vertical and horizontal components of oscillations at each of at least 3 points within a comparatively small area at ground level to simultaneously measure microseisms at such plural points, if necessary changing the locations of said points of measurement and repeating the measurements, and analyzing the vertical oscillation data or vertical and horizontal oscillation data.

2. A method for estimating the laminar structure and other characteristics of a ground according to claim 1 wherein said microseisms to be measured are short-period microseisms observed at ground level.

3. A method according to claim 1 wherein two oscilla-tion sensors are disposed on each of 2 or more straight lines passing through the ground to be measured and dividing the azimuth of 360 degrees into an even-number of equal sections or straight lines parallel thereto in such a manner that sensor-to-sensor distances are equal on said straight lines.

4. A method according to claim 1 wherein said oscil-lation sensors are disposed at 3 or more points at

qual spacings on the circumference of a circle and at one point in the center of the circle, or at a total of at least 4 points.

5. A method according to claim 1 wherein said oscillation sensors are disposed at apices of a regular triangle and the center of gravity thereof or a total of 4 points.

6. A method for estimating the laminar structure and characteristics of a ground according to any of claims 1 to 6 which comprises analyzing vertical oscillation data or vertical and horizontal oscillation data as measured simultaneously with said oscillation sensors, judging whether the oscillation waves detected by said oscillation sensors are surface waves or not, and extracting and analyzing the surface waves.

7. A method for estimating the laminar structure and characteristics of a ground according to any of claims 1 to 6, which comprises analyzing the correlation coefficient and phase difference of oscillation data measured by equi-spaced oscillation sensors for each frequency, performing the analysis repeatedly with sensor-to-sensor distances varied, analyzing and computing the fundamental mode of surface waves based on results of the respective analyses and, if necessary, analyzing and computing the higher-mode wave-

lengths.

8.   A method for estimating the laminar structure and
characteristics of a ground according to any of claims
1 to 7 which comprises performing the measurement and
analysis of microseisms repeatedly until it can be
concluded that a relation between phase velocity and
wavelength such as to give a sufficiently accurate
assessment of ground structure is achieved.